# Missouri Valley Veterinary Bulletin

PUBLISHED MONTHLY BY

D. M. CAMPBELL, D. V. S.,

123 West Eighth Street, Topeka, Kansas.

Entered as Second-Class Matter, July 10, 1909, at the Postoffice at Topeka, Kansas, Under the Act of Congress of March 3, 1879.

Original articles and case reports solicited from our readers for exclusive publication only.

Subscription Price, $1.00 Per Year.

Vol. V. MAY, 1910 No. 2

## Leading Articles

### BACTERINS AND VACCINES IN VETERINAY PRACTICE.

By Dr. T. B. Rogers, Chief Veterinarian, H. K. Mulford Co.
Read at annual meeting Minnesota Veterinary Medical Association, January, 1910.

I believe in starting fair. I am here as a representative of a commercial house, but if you expect to hear from me any mention of that house's products you are mistaken. We do not do our business that way. We keep our science and our business separate. If we want to advertise our goods we do it through the usual and legitimate methods. I am not here to advertise or sell anything.

When I was asked to present this paper, the idea came to me, from my experience at many veterinary meetings, that the biological side during the last few years has been very largely dealt upon. You could shut your eyes and imagine you were attending a meeting of bacteriologists.

I want to say to you in the first place that it is time that the practitioner asserted himself. With all due respect to the laboratory man, the practitioner is the court of last resort. I can say this with the more grace because I am connected with a large bacteriological laboratory. At a meeting of the Gloucester County (N. J.) Medical Society, Professor Hobart C. Hare of Jefferson Medical College, Philadelphia, Pa., made the assertion "that the jury of last resort in matters medical was composed of practitioners," and there is much truth in the assertion. No matter what the laboratory findings if they don't work out in practice. Will the laboratory men present, pardon me if I spend a few minutes

in classifying this class of remedies, for they fall readily into a useful classification?

**First.—True Vaccine;** attenuated cultures of living germs. Examples: Smallpox vaccine, anthrax vaccine.

**Second.—The Bacterins.** Killed cultures of bacteria, the vaccines of Wright bacterins. Examples: Staphylo-bacterin, Strepto-bacterin.

It seems to me that a better nomenclature for these classes would be to call the first class Bio-vaccines—living vaccine—and the second, Necro-vaccines.

**Third.—The Antitoxins,** whose function is to neutralize toxins elaborated by pathogenic germs; their name, too, is somewhat of a misnomer, as they probably have the other side action which tends to the improvement of the condition of the recipient. Examples: Diphtheria antitoxin, Tetanus antitoxin. These agents produce a passive immunity, i. e., they introduce into the blood foreign material which renders the host less susceptible to the poison of the germ products they antagonize. It is worthy of notice that Bacterins—killed cultures produce active immunity, i. e., they stimulate the cells and sera of the host, raise the opsonic index and at once increase the phagocytic power of the cells, the bactericidal power of the serum and still further prepare the invading germs for destruction by phagocytes.

**Fourth.—The Toxins.** Poison products of the bacteria. Examples: Old tuberculin—mallein. At present the use of this class in veterinary practice is confined to purposes of diagnosis. The toxins a three-fold action when injected into patients suffering from the invasion of their special germ. First. A thermic reaction, elevation of temperature. Second. A local reaction—a characteristic swelling at the point of injection. Third. A constitutional reaction—symptoms of illness, anorexia, horripilation, general malaise.

I have lately had some interesting experience regarding the polyvalency of certain sera. Thus it has been shown that the canker of pigeons is amenable to treatment with diphtheria antitoxin, and that diphtheria antitoxin possesses immunizing power in equine influenza. It is also curative in certain cases of canine distemper. On the other hand, a veterinarian having charge of a large Philadelphia stable who gives each new horse a dose of tetanus antitoxin is assured that this antitoxin immunizes against the common disorders contracted in shipping; and, au contraire, some letters recently came to my desk claiming that influenza antitoxin was useful in the treatment of tetanus.

I cannot explain these somewhat curious conditions. A medical man, at one time interne of a large charitable hospital, informs me that during his term he treated his diphtheria cases with potassium chlorate, glycerin and tincture of iron, and his whoopingcough cases with diphtheria antitoxin. He claims that the serum was both palliative and curative in whoopingcough.

I should like to say a word with regard to some recent work being done by the Bureau of Animal Industry with regard to getting a standard for veterinary antitoxin. It is very desirable to have a standard

for it, but I wish to call your attention to what I think is a mistake in what they wish to do in this regard. We have all of us for years been immunizing horses against tetanus with an antitoxin that would not probably reach more than 50 American units. In our laboratories we have used it for ten thousand cases and never had a case of tetanus. I have charge of the public service stables of New Jersey. Every horse which receives an injury of any kind is given at once an immunizing dose of tetanus antitoxin.

A great many of these horses are in a tetanus district, and before that method was instituted many cases occurred. In the six years this method has been followed we have never had a death from tetanus, and we are giving a serum that did not read above 50 American units. Now, if the Bureau is going to impose 1500 units, it seems to me they are going to ask you to pay a great number of times for your protection, and I think the science in all your serum treatment is to get them so cheap that you can make of them universal use. We have a fixed policy wherever we get a wound or whenever we do a surgical operation. We give the antitoxin and put it in the bill, and I think the profession should go a little bit slow before accepting that arbitrary standard. Today in Philadelphia we are trying to domenstrate experimentally in the horse (and it has never been done before) the amount of antitoxin that is needed to protect.

Another word I should like to say to you in passing: It has been a matter of regret to me to notice that in the East a great many agricultural experiment stations are establishing small laboratories, and a great many of those laboratories are not in veterinary charge, and in my country the results are bad. The other day I received a letter from a farmer stating that he bought 300 c. c. of our tuberculin from a druggist, and he was testing his own cattle under instructions he had received from the University of Wisconsin, and disposing of those cattle as he thought fit, and he wanted to know how long the tuberculin would keep, whether the instructions received in Wisconsin were correct, and altogether he was in that frame of mind of every farmer who is his own horse doctor. I think when you can get a state laboratory under proper veterinary supervision it is a good thing; but I think the profession should protest against the establishment of state laboratories under lay control where the veterinarian is crowded out. I am the veterinarian of the State Board of Health of New Jersey. I have no control over tuberculosis. We have a state tuberculosis commission, purely under lay control. It consists of a retired farmer who kills the cattle, the director of the State experiment station and a retired M. D. and it results in cattle shipped into the state being tested in such wise that the test is a farce.

With regard to the bacterins they have come to stay but I sometimes think that the bacterial therapy is in more danger from its friends than from its foes. A good consistent enemy lying constantly on ones flank like a staunch hound is often a friend in disguise, he acts the part of Kipling's yellow dog, "Dingo." (You may remember

that the kangaroo desired to be run after, and Dingo went on the job, chasing him until the kangaroo developed his marvelous hind legs and jumping ability.) Too good a friend, however, often gets new remedies into trouble by being too enthusiastic. He often fails to distinguish between "post hoc and propter hoc."

The up-to-date veterinarian will use the staphylo-strepto- and pneumobacterins and will save many cases he would otherwise lose, but he will fit the remedy to the case and will not condemn this branch of therapy because he fails occasionally to get results. Gentlemen, it is just as well to look the matter squarely in the face. You may get two cases bacteriologically and clinically similar and, getting good results in one case, fail in the other. The thinking man will accept these results as the vagaries of an infant science and not blame the method.

With regard to the use of stock vaccines: It has been shown that stock cultures of the gonococcus give better results than polyvalent preparations, and I see no good reason why stock cultures of polyvalent streptococci and staphylococci should not take the place of those made direct from the patient. The element of promptness and convenience comes in play here.

While on the subject of the treatment of fistulous withers and poll evil, I can strongly recommend that you pack the cavities with a paste made by mixing solid chloride of iron, rye flour and water. A stiff yellow paste results which becomes darker with age and also thiner, sometimes requiring the addition of more flour. With time, too, some other changes develop, giving the mixture a "fruity" odor. Soft lamp wicking impregnated with the mixture is packed into the wound and left there for 48 hours. Usually the slough comes out with the packing, and the remedy does not injure living tissue.

Finally, remember that the bacterins are the best and latest bilogical remedies in diseases where staphylococci and streptococci are in evidence. You can get results with them that are unattainable by other means, but you will meet occasional failures. It is not necessary to say that the educated veterinarian will not disown a remedy because he occasionally meets with a failure, the cause of which is beyond his ken.

[Note—The Editor cannot see why Dr. Rogers should begin his excellent paper with either an apology or a defense. It does not necessarily follow because he is engaged in commercial lines that he cannot tell the truth. Drug, biological and instrument houses are as necessary to the production and maintenance of a scientific profession as are schools. The veterinarian who gives his best efforts to either line may be, and probably is, doing as much for the advancement of his profession as though he were engaged in college work or in general practice. The idea seems to prevail with some that because a man is engaged in commercial lines he must be a liar. We suppose it is in recognition of this belief that the essayist begins by saying he is the representative of a commercial house, but is not going to advertise (by lying or otherwise) the products of that house. Any of us have the right to doubt Dr. Rogers's word if we want to, but we should have a far better reason for

so doing than the fact that he is in the employ of a commercial house. The writer is personally acquainted with most of the veterinarians in this country engaged in commercial lines and regards them as a conservative lot of men. The extravagant reports, the almost miraculous cures, the "big stories" that have come to his attention have not been from this class.]

## COLIBACILLOSIS.

By Dr. L. Van Es, Agricultural College, N. D.

Read at meeting of Minnesota Veterinary Medical Association, January, 1910.

Of the diseases which next to tuberculosis and infectious abortion are most liable to inflict serious damage to our dairymen and breeders, calf diarrhea or scours occupies a more than prominent place, and while this is not less true in the breeding centers in this country than in those of the old world, it must be admitted that on this side of the ocean the disease has not received the serious attention which it so well merits. This fact, as well as the economic importance of the disease, is the reason why I felt justified in asking that this subject be given a place on our program.

The disease in question was described for the first time by Tolnay in 1799. This observer regards the disorder as an enteritis springing from a faulty digestion of the milk, and did not seem to suspect its infectious nature. The fact, however, that in so many stables, the disease assumed an enzootic character gradually led to the suspicion of its true nature.

Delafond hints at the possibility of contagion in 1844, and Obich, writing in 1865, expresses the opinion that the enzootic character is due to a virulent substance contained in the faeces of diseased animals. Franck (1876) attributes the infection to a contagion derived from the soil in the stables, which by contamination of the vaginal mucus and the skin of the dams infects the calves, either before or during birth.

Dickerhof speaks of a faculative parasite infecting the young animal soon after its birth. A systematic bacteriologic study of the disease was undertaken by Gutman in 1884, and his work was taken up by Perroncito in 1885. It was then found that the blood of the heart and the intestinal contents contained micrococci, which were pathogenic to calves and guinea pigs.

In 1892, Jensen of Copehhagen published the results of an investigation of the disease in which he attributes the disease to an organism which inhabits the normal intestine and which is closely related to the Bacillus coli communis. Those results, subsequently confirmed by numerous other authors, led to the study of the disease in the right direction.

In 1899, Poels showed the important part played by the navel as a port of entrance to the infection and also called attention to the fact that quite a number of bacterial species are capable of producing a fatal diarrhea in new-born calves.

The fundamental researches of Jensen conducted since his first publi-

cation, however, showed that in a preponderating majority of the cases the coli bacillus proved to be the etiologic factor, while the Copenhagen professor furthermore proved the correctness of his assertion by the preparation of an immune serum against the coli bacillus, which proved to be a certain means of prevention in the infected stables.

While the possibility of etiologic factors, other than the Bacillus coli communis, must be continually remembered, the writer feels warranted in calling attention to the disease under the name of colibacillosis. The few cases of calf scours which he had occasion to examine in this country, always revealed the presence of the Bacillus coli communis in pure culture in the heart blood and the spleen, and while this finding alone does not constitute absolute proof as to the cause of the disease, it certainly is good ground for suspicion.

Like most of the infectious diseases, colibacillosis is most liable to occur in those regions, where breeding is carried on in the most intensive manner, and an animal husbandry is becoming more and more developed, the disease is gradually becoming more frequent and has reached a stage which must be reckoned with in the management of our pure bred and dairy herds.

According to the virulence of the infectious agent and the nature of the local conditions the mischief produced by the disease varies.

In some instances the damage remains confined to a comparative small percentage of the annual calf crop, while in others again all calves die within two or three days after birth. In many stables the disease becomes enzootic and springs up at each calving season.

The coli bacillus, associated with the disease under consideration, is in all respects identical with the Bacillus coli communis, present in the normal intestines of most mammals and which was first described by Emmerich in the early eighties. The organism only differs in one special feature, and that is its violent virulence when introduced into the body of new-born calves. This virulence has probably been acquired by passage through the body of animals, as it is more than probable that the coli bacillus of colibacollosis is originally derived from the intestinal canal of healthy animals. There they are comparatively harmless as they are not capable of passing through the normal mucosa. In the event, however, of the impairment of this membrane by whatever cause, the bacilli may find their way into the general circulation and there and in the remote organs exert a pathogenic influence.

The passage through the intestinal mucosa in young calves is, according to Joest, particularly enhanced by the fact that shortly after birth the intestinal epithelium is not yet provided with the protective mucous zone, common in older animals. In additoin to this, it must be remembered that the stomach at that age, has not yet begun the secretion of the acid gastric juice, so that organisms passing through that organ are exempt from its inhibitory influence on bacterial development and vigor.

There is some good evidence to show that the virulence of the organism increases with every animal passage, so that the descendants of a once

relatively harmless variety may in this manner become mischief makers of prime importance.

It is a well-known fact that coli bacilli obtained from various sources, will show a great number of varieties, as to their pathogenic properties and some of their peculiarities manifested under cultivation. This fact is of great pratical importance when attempts at immunization are to be undertaken, as will be pointed out at its proper place.

It has been pointed out above that the coli bacillus from healthy animals may develop a high degree of virulence for young calves, so that the disease is capable of springing up in a herd without being brought in from the outside. Any influence which is liable to render the intestinal mucosa of the calf vulnerable, such as errors in diet, the introduction of irritating substances, etc., is liable to start the otherwise harmless organism off on a career of mischief.

When the stable once harbors an organism, which has in the manner indicated assumed pathogenic properties, the opportunities for infecting the new-born become manifold. The disease producing coli bacillus is now omnipresent and even invades the vagina of the dams, so that the mouth of the calf becomes contaminated even before it has seen light. It is, however, probable, that the most common means of infection is furnished by a young animal sucking from a contaminated udder. The mouth always is the most frequent entrance point for the bacillus, but the possibilities of infection through the abrasion of the navel must not be overlooked. The possibility of an intra-uterine infection is by no means excluded.

Susceptibility to the disease is greatest immediately after birth and most of the cases that come to our attention are less than three days' old. The susceptibility is further increased by any condition which tends to irritate the intestinal musoca or which depresses the vitality of the calf. The administration of boiled milk directly after birth is liable to so affect the resisting power of the mucosa as to cause a fatal coli infection. The withholding of the colostrum even may bring about such a condition.

The first evidence of the disease is shown shortly after birth, as cases of colibacillosis after the fifth day of life are exceedingly rare. The animal seems tired, shows little or no appetite, and usually remains down. Spasmodic contraction of the limbs during that period is not uncommon.

Diarrhea is an early feature and most frequently precedes all other symptoms. The faeces are very thin, often watery, have a light yellow or grayish white color, and a very fetid odor. Often coaguli of milk are present, while a frothy appearance is not seldom seen. Evacuations are accompanied by considerable tenesmus. Later, blood may make its appearance in the faeces. A rise of temperature is noticed early in the disease, but owing to the weakness, which so soon becomes a feature in the disease, is usually of but a short duration.

The frequent and feeble heart beats, as well as the shallow respiration, are evidences of the growing weakness.

When the fatal issue is somewhat retarded, the animals present a dismal picture, with their deeply sunken eyes, hollow sides and dead coat. The general weakness finally deepens into a comma, the common forerunner of the end.

The mortality figure is very high and even in the milder forms of the disease runs above 80%. The losses average above 80%, and even animals surviving the first attack are apt to suffer a relapse or fail to develop in a normal manner.

The occurrence of the disease within the first days after birth and its apparent infectious nature distinguishes coli bacillosis from the ordinary gastro-intestinal catarrh, such as may result from dietetic errors.

Autposy reveals marked emaciation of the carcass. The mucosa of abomasum and small intestines is congested or may even be ecchymotic.

The intestinal adenoid elements are hyperplastic. The intestinal contents correspond to the condition of the faeces already mentioned. The rectum is thickened, edematous or inflamed. The mesenteric lymphnodes are enlarged and often hemorrhagic.

Medicinal treatment is usually not followed by the desired results. The fact that great numbers of the casuative organism enter the general circulation at an early stage of the disease, explains the futility of active dosing.

Where such is to be undertaken, however, it must be directed against the intestinal irritation and against the general weakness. A mild purge, such as castor oil, may be given with a view of ridding the intestinal canal of its noxious contents. This may be followed by emolients and astringents, such as a combination of bismuth subnitrate and gum arabic. To this a little opium may be added.

The tenesmus may be combatted by enemata of weak antiseptic solutions.

The animal's vitality must be supported by stimulants, among which alcohol, especially in the form of egg-nogg, occupies a prime place. Coffee and caffeine also can be made use of.

Preventative measures lead to more encouraging results. The proper isolation of sick animals and the complete destruction of carcasses dead with the disease, followed by a thorough disinfection of the premises, must always be recommended.

In stables, where the disease appears to have assumed an enzootic character, the stable should be disinfected once a month. The feeding of the calves must be undertaken in a scrupulously clean manner and should the use of sterile milk be desired, its use should not begin until after the calf has sucked out the colostrum.

The use of pasteurized milk is indicated. The disinfection of the vagina and external genitalia and the adjacent parts of the dam should be accomplished both before and after parturtition. In the general process of disinfection, the navel and stump of the cord of the calf should be included. After the wash of those parts with a weak antiseptic solution, they should be painted over with a 5% solution of iodine in glycerine or of an antiseptic of similar potency.

From the present indications, it seems that in the prophylaxis of coli

bacillosis immunization of the susceptible animals is apt to become an important feature.

A serum prepared through the use of a given pathogenic coli bacillus, will protect calves against infection with the same. It was, however, found that such a serum failed to protect in outbreaks of coli bacillosis, in which another variety of coli bacillus was the etiologic factor. This difficulty was partially overcome by the use of a polyvalent serum. In such a serum a great number of strains of the organism derived from various sources is used as antigen in the preparation and in consequence it is specific against a greater range of coli varieties.

While the results of polyvalent anti-coli sera are more favorable, their use to a large extent is no more than a guessing in the dark still leaving a rational method of immunization to be devised.

This difficulty has seemingly been overcome by Jensen, who uses the variations in the fermentation of sugars by the coli bacillus as a base for classification. In that manner some definite groups of varieties can be established, and a serum may be prepared against each group and this serum is used in outbreaks where an organism belonging to a certain group is causing the mischief.

The rational application of this method, of course, involves the previous bacteriologic determination of the organism, but as this can be done within a short period and by comparatively simple methods, the difficulty offers no serious obstacle to the application of Jensen's method.

[We do not know that we ever had to deal with colibacillosis because we did not have laboratory aids for arriving at the cause of the severe diarrheas of the young that have been rather common in our practice. Certain it is we have seen much of this diarrhea in the very young that was so severe it literally "killed our patients before we could cure them" unless treatment was begun very early and pushed vigorously, but in all, or at any rate in most cases, it seemed to have originated in some error in alimentation or from exposure, but be the cause as it may, we are in these cases presented with three chief symptoms, indicating three different lines of treatment.

First. There is a profuse and distressing diarrhea, indicating there is something irritating within the intestinal canal and nature is trying to rid the animal of it, the indication is to help to get rid of this irritant. Give calomel, in conjunction with podophyllin, aloin or colocynth, or all together in small but frequent doses; warm potassium permangante enemata will relieve the tenesmus and materially conserve the patient's strength.

Second. The faeces are very stinking, indicating fermentation or putrefaction in the intestinal canal. Treatment should be directed to stop it, of course, for with putrefaction there is produced toxins whose absorption rapidly destroys life. Here we must use intestinal antiseptics, and use them until all unnatural odor disappears from the faeces. The calomel given in the purgative will aid in this, and is a valid reason why we should use it and not oil.

Third. The patient is greatly depressed, very weak or even prostrate.

The heart action is rapid and weak, respiration shallow and hurried, the temperature elevated, the expression anxious, the appetite gone, the patient unable to stand or, to describe the whole condition in one word, there is present a toxemia. We believe there can be no doubt but these toxins in the blood are absorbed from the intestinal canal and are the direct cause of the death of the animal. We do not attach much importance to the fact that the coli communis have been found in the spleen and the heart blood. The essayist lays stress on disinfection but, to our mind, neglects the disinfection of the most important part—the intestinal canal—which is the seat of the trouble.—Ed.]

## A CASE OF EMBOLIC COLIC.

On Sunday, February 24, my principal and I went to a case of an aged gelding which had been in pain since the morning and unable to pass any faeces.

On arrival we found the animal blowing very badly, pupils widely dilated, but not sweating or inclined to be violent. The respirations were 75, the pulse, very weak and depressed, 84, and the temperature 105 F. At first the symptoms rather led one to suspect lung trouble, but on auscultation there were no abnormal sounds. Auscultation over the abdominal region failed to give any evidence of péristalisis, and we proceeded to back-rake the animal, when it was discovered that the pelvic flexure was displaced.

Hot packs were applied and the animal given stimulants. The following morning the gelding seemed somewhat better, there having been a slight passage of faeces, in which strongylus tetracanthus were found. The pulse was still very fast and weak, beating 78, respirations 60, and temperature 104.6 degrees F. Stimulants were again given and anodynes left to be given if animal became violent, and hot packs ordered to be resumed. The animal died that night. On post mortem the lungs and heart were found to be normal. The pelvic flexure had been displaced forwards and upwards, its position making passage of faeces impossible. The cause was probably due to the stronglus or sclerostomum armatum, as there were fourteen aneurisms in the anterior colic artery, which probably caused deficient or imperfect peristalsis, and hence the displacement. The case is interesting to the writer's mind to the rather curious symptoms and also to the probable cause of the displacement.—Veterinary News.

## PAPILLOMA OF THE PENIS OF A HORSE.

By B. F. Kaupp, Pathologist.
From the Laboratory of Pathology. Colorado Agriculutral College. Veterinary Department.

Papillomata are commonly called warts. There are two varieties—the soft and the hard.

The soft papilloma occurs on mucous surfaces, as the bladder and intestinal tract. The hard papilloma occurs on the cuticular surface.

The papilloma consists of a fibrous center projecting above the surface. If on the cuticular surface, this is covered with stratified squamous epithelium.

FIGURE I.

By some authors papillomata are classed with the fibromata, which, becoming nodular and covered by more or less densely packed layers of epithelia are called papillomata.

Little has been written in regard to papilloma of the penis of the horse, hence this report. Papillomata of the penis of the horse are not rare. They usually occur just to one side of the urethral opening. Some are small, some large, but are benign. They are readily removed and if properly removed do not recur.

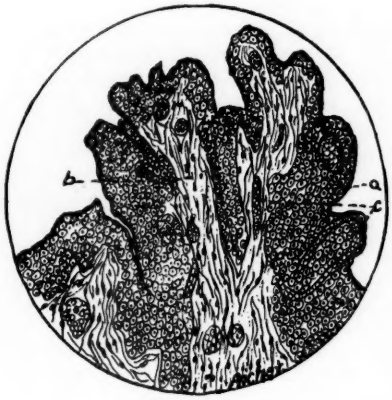



FIGURE II.

Figure 1 is a photograph of the free extremity of the penis of a horse showing papillomata to one side of the urethra. A, urethral opening. B, papillomata.

Figure 2, a drawing illustrating the microscopic study of same. A, stratified squamous epithelium. B, central mass of connective tissue. C, blood vessel.

## INTESTINAL MEDICATION.

Herbert F. Palmer, B. S., D. V. S., Chicago, Ill.

Read at Kansas Veterinary Medical Association, January, 1910.

Disturbances within the intestinal canal are the cause of so much trouble that it seems fitting that we should spend some time in the discussion of the common bowel ailments and make a few suggestions concerning the correction of disorders of these parts.

When compared to its body size, the horse has a very small stomach. On the contrary the intestines are long and large. Owing to this anatomical arrangement the diseases of the intestines of the horse are frequent as compared with the diseases of the stomach.

Contrast the digestive apparatus of the horse with that of the ox. In the latter, the four stomachs or enlargements of the alimentary canal are always kept busy with a large bulk of food; the intestines, being comparatively small and short, play little part in the digestive process.

As a consequence of these different conditions we find that in the horse, troubles with the intestines predominate; while in the ox, the stomach disorders greatly outweigh the intestinal troubles.

During the progress of digestion in the horse, most of the freshly masticated food quickly passes through the stomach and directly into the intestine. The small amount in the stomach at the close of mastication remains there for some time. The great bulk of the ingested food is in the intestines and there is mixed with digestive fluids and made ready for absorption and assimliation. While the stomach is emptied in a few hours, the intestines are never entirely emptied. In a perfectly normal horse 16 hours are usually required before any food passes the entire 100 feet of this animal-tube. Particles of undigested food often remain in the intestines for a week at a time.

Heat and moisture, two fundamentals in the development of bacteria, are ever present in the intestines. When the ingesta is not passed along, the fluids are absorbed and with it, the accumulated bacterial products, and systemic troubles soon ensue. This absorption of toxic material from the intestines, or autotoxemia as it is called, is the cause of a large proportion of the horse's ailments.

During the natural process of digestion, fluid is constantly poured into the intestinal canal. This serves a double purpose; first these fluids help to extract from the bowel contents material which will be used in the body processes; and, second, they supply the "greasing" material that facilitates the passage of the undigested parts through the gut. If from any cause this fluid is lessened the dried ingesta tend to accumulate, and autotoxemia at once takes place.

Now let us note a case: Suppose the intestinal fluid is lessened, the ingesta will then accumulate, toxins will be absorbed, the temperature will rise, and autotoxemia ensue. The natural result is pain—more pain, and, "then some." What are the indications for treatment? It is simply the removal of the cause. True it is the pain must be controlled, but a cure cannot be obtained simply by relieving the ache. Clear the intestinal canal of this irritating mass. The dry ingested

material, much resembling a closely packed bologna sausage, must be moistened and forced along. You must provide some lubricant to help this ingesta on its onward passage. Clean out and do it thoroughly. The increased peristalsis will clear the canal not only of the accumulated ingesta but the poisons which have developed in this mass will take the hint and leave also.

Yes, this is all right, you say; but how many of us religiously carry out this practice? Do you give the cathartics until the intestines are well emptied of their contents or do you stop for fear of superpurgation? Tell me how many cases of too severe catharsis you have had, as compared to the number of lives you would have saved if the bowels could have been thoroughly opened up? Start early and work aggressively. If the temperature continues to rise, it is because of increased absorption of the toxins. This condition calls for more vigorous work.

This is but one indication of the clean-out method. The text-books have taught that accumulated ingesta must be removed, and as early as possible, but—listen—here is where the older text books were at fault. You were doubtless taught (I know I was) that in pectoral diseases, with any decided elevation of temperature, you should not give purgatives. "If temperature is above 102 degrees do not give purgatives." Such is the teaching of some of our text-books even today. Are you still following that teaching? The accumulated toxins of pectoral diseases should be as speedily removed as in bowel troubles, and elimination by the bowels helps. Because the temperature is up, do not withhold the clean up. That is really an indication for its use.

One prominent practitioner, in relating his experience with cathartics in pneumonia, says he does not have one-half the mortality and not one-half the duration of the disease since he began the use of the cathartic treatment. In such cases the small doses, frequently repeated for results, are recommended. Nothing will so surely bring down the fever, and have it remain down, as a thorough clean out.

Shotgun prescribing has no place in veterinary medicine. Especially is this true of purgatives administered to our larger domestic animals. It is essential that you thoroughly acquaint yourself with the action of the different cathartics. Choose a reliable make, and the remedy indicated in this particular case, and then push to effect. In one case one dose will secure results. In another case, apparently similar, it will take two or three to accomplish the same results. Do not always lay this to the drug. A failure to understand the bowel conditions and the general condition of the individual animal will account for this irregularity.

Many of our infectious diseases are caused by the entrance of germs in the body through the alimentary canal. If that canal is clear and clean the germs will pass through it or be destroyed in it and no harm will be done. Let the passage be blocked by the accumulated ingesta and the ever-active germ will readily "scoot" through the intestinal walls into the general circulation, find a lodgment at some convenient place and begin its nefarious work.

Right here comes in preventive treatment. Keep the alimentary canal

well cleaned. Many germs which enter the system by way of the alimentary tract will find it more convenient to pass through and out of the body than to permeate the intestinal walls into the general system. If some of the money the average farmer spends for condition powders and stock foods were paid to his veterinarian for cathartics and those cathartics rightly used, many of the intestinal troubles would be avoided.

All of this ought to show us the "why" of the "clean out, clean up and keep clean" idea. Now a few suggestions as to the "how" of the process.

You are called to see a horse which is rolling, tumbling and going through all sorts of movements to get relief. To stop the pain is the first indication, but even this is often most quickly accomplished by the clean-out process. When anodynes are used, select those having the least action upon the secretion and muscular activity of intestinal canal. Then purge, and purge freely until all of that irritating material in the bowel is removed. Rarely, indeed, should one leave a case of intestinal disturbance without administering a purgative. If the pain and spasm have been relieved and rapid work is not necessary aloes works nicely, though it is slow. If full effects are not produced in 24 hours, repeat the dosage.

Many cases call for quick action. If you were to wait for the aloes, a corpse would be left on your hands. These cases call for such remedies as eserine, arecoline, pilocarpine or barium chloride. Each has its own work to perform, and all are certain of their action. We can certainly expect to increase the muscular action with eserine, the quantity of intestinal fluid is increased by pilocarpine, and arecoline certainly causes an outpouring of fluids along the entire length of the alimentary canal. Do not hesitate in their use, for they are just as safe, in indicated cases, as aloes. Study your case well and do not give a single remedy until you know why you are giving it and what action you may expect from its use. Then when you begin, push to effect. Indiscriminate shotgun dosage is what does the harm. Take the single remedy indicated, then with the true aim and accurate fire of the modern rifle, hit your clinical bullseye so squarely that your remedy can not fail to do the required work.

Many preparations not of themselves possessing any cathartic action, are usefully combined with the usual cathartics to aid their action. Strychnine is a good example. While not a cathartic itself it is often combined with the slow-working cathartics such as aloin, and sometimes with the rapid-workers like eserine to assist their action by giving tone to the muscular coat of the intestines.

The up-to-date veterinarian has found many ways of relieving intestinal and stomach disorders. One, which I desire to mention and give my approval to, is the stomach tube. How can one expect to throw a small amount of medicine into a large fermented mass of ingesta and secure prompt results? The hypodermic route will assist us greatly but full relief is not obtained until the mass which has accumulated in the

stomach has been eliminated. Why not improve on nature a bit and make the horse empty his stomach and thus at once get rid of the source of trouble? To one of the members of this society [Kansas Veterinarian Medical Association] belongs the honor of perfecting a tube by which this may be safely accomplished.

Now just a word regarding each of the remedies recommended for quick action.

**Eserine,** also called physostigmine, is one of the three alkaloids of the Calabar bean. The sulphate or the salicylate is usually used. The sulphate is believed to be the stronger and to retain its activity much better than the salicylate. Eserine may be used either subcultaneously or intravenously; however, the somewhat slower subcultaneous method is preferable. It rapidly stimulates the unstriated muscles of the intestinal canal. It is best to give the small dose, oft repeated, from one-half to one grain every half hour to effect. Full and free purgation is usually secured by two or three doses. Enemas should be given to aid its action. It is usually advisable to give a small dose of aloes following the eserine, to entirely rid the alimentary canal of any irritating material not removed by the eserine in its rapid work.

**Pilocarpine.** Of the four alkaloids of jaborandi pilocarpine stands alone, since the other alkaloids of jaborandi really oppose the action of pilocarpine. Three of the alkaloids of jaborandi instead of causing the characteristic sweating, dry up the secretions. Pilocarpine to a slight degree increases peristalsis. It is very usefully conjoined with eserine to relieve intestinal accumulations. Pilocarpine pours fluid into the intestinal canal, while eserine, by its action on the muscular coats, moves the moistened ingesta along. The hydrochloride is the salt of pilocarpine ordinarily used. Dose ½ to 3 grains. When given hypodermically its action is noted in about 15 minutes. When associated with eserine it is usually given in the proportion of ½ grain of eserine to 1 grain of pilocarpine.

Atropine is the physiological antagonist of pilocarpine and may be used if the toxic symptoms of pilocarpine are developed.

**Arecoline.**. One of the four alkaloids of areca nut. The hydrobromide is the salt employed. This preparation is now being used quite extensively by veterinarians in colic cases. It is a rapidly acting cathartic. While its main function is to increase secretions, it in a measure combines the action of eserine and pilocarpine. Dose ½ to 1 grain. Given subcutaneously in repeated doses to effect. The same precautions and directions given for eserine apply to arecoline.

**Barium Chloride.** A considerably used and much abused drug. It is a salt of neutral reaction, usually made from barium sulphate. For many years this drug has had its strong advocates and equally strong opponents. This wide difference probably comes more from its manner of use than from the impure or unreliable drug used.

As it is a strong irritant when used subcultaneously it is generally used intravenously. It is often given by the mouth as well, and rarely by the trachea. Its action is very similar to that of eserine and on account of its low price it is often used in its stead. It increases the

muscular activity of the bowels and thus causes purgation. Dose 10 to 15 grains given in the vein. One to 2 drams given by the mouth. Fifteen to 20 grains given in the trachea. It should always be well diluted. Its action is quick and quite certain. Within a few moments of its entrance into the circulation its action is noticed and several evacuations will take place within half an hour. The rapidity of its action often causes a depression of the heart, which is always alarming and sometimes serious. To overcome this tendency, it is advisable to combine a stimulant dose of digitalin with the barium chloride.

**Aloes and Aloin.** For active but slower work in clearing the bowels there is nothing to take the place of aloes or its independent principle, aloin. This drug so long used by veterinarians still has a wide field of usefulness. The up-to-date veterinarian in his colic cases is not content to take the "slow train" of aloes, but he hustles forward on the eserine or arecoline express and reaches his journey's end with the same element of safety as when he used the aloes. While aloes in a large measure is giving way to the quickly acting cathartics, it has established for itself a distinct place as a laxative. The small dose, frequently repeated, to put the bowels in proper condition, is now its right place.

There is a class of cathartics, so often used in the human subject, that finds but little place in veterinary practice, except in bovine work. I refer to the saline cathartics. Salines act by osmosis, pouring fluid into the intestinal tract, thinning and washing out the ingesta. In bovine practice where rapid purgation is seldom necessary, the saline purge is usually employed. Epsom salt, on account of its price and ease of administration, is usually employed, the dosage varying with conditions present. Many of us listened with open-eyed wonder when our college professor told us to give from one to three pounds at one dose. As a matter of fact nearly all of us have doubled, yea trebled this dose, and obtained satisfactory results.

Linseed oil, castor oil, glauber's salt, gamboge, croton oil and calomel, each and all have a distinct place in veterinary medicine. Their use depends on the individual preferences of the veterinarian.

## WELFARE OF OUR ASSOCIATION.

By Dr. W. Amos.

Address Minnesota State Veterinary Medical Association, Stillwater, July 14-15, 1909.

In the beginning, I might say that our association is what the individual member makes it. If we are to have a live and flourishing association we must have live individual members, so what I have to say of the individual member will apply to the association, and vice versa.

As to the individual members, we must be alive, up and coming, ready for anything that may present itself, conduct ourselves in our every-day practice and intercourse with the public so that they will have confidence in us. This is the only way to elevate our profession in the eyes of the public.

The first principle is honesty; put cleverness with trickery, and dishonesty, and there is bound to be a big stumble. It may flourish for a while, but both are bound to come to grief.

The man with a clean record can hew a path for himself anywhere, and under all circumstances. No man stands out in clearer, purer light against the background of American history than does Abriham Lincoln. No man ever prized character more highly than he; he never trifled with reputation, never gambled with his good name, but on the contrary preserved it with zealous care, never for a moment forgetting his responsibility to his fellow men, and always considerate of the future and the effect his action would have in time to come. In all professions we find men failures, not through lack of ability but through lack of push, manhood and character to sustain them. Nail your colors to the mast of integrity, and defend them with the ammunition of right thinking and well doing. If you are not a good man first, you will never be a good lawyer, a good doctor, or a good preacher. It does not pay to be dishonest with your patron, to hold him up for extra fees where corresponding service is not rendered.

Cleverness is a mighty good quality to possess to get through the world with, but to work to the best advantage, it needs a teammate, and that team-mate is integrity. The man who has dealt fairly and squarely with all is not afraid to look the world in the face.

Do not say that you cannot do this, or you cannot do that, but say you will, and you will be surprised at your own strength. Do not sit down and wait for others to come along and boost you; boost yourself by your own work. This is not a sermon, as I am not a preacher, the son of a preacher, nor in any way that I know of related to a preacher. I have merely taken the individual to represent a component part of our association, and wish to apply the foregoing to each one of ourselves as one of this association. What is any association but merely what each separate member as a component part of that association makes it; it is our association, not yours, not mine.

Every wheel is made up of so many spokes. Let one spoke lose its usefulness, and it places just so much more responsibility on the remaining parts of the wheel. I do not intend this as a personal roast for any member especially, but if we are to have a good live association, we must have live members, who are willing to do their share when called upon. If we all say we cannot, then good-bye to our association.

This association or any other does not depend on a president, or a secretary; they have their mission to fulfill, but it is not to do all the clerical work, furnish papers, give reports and do all the operations at the clinic.

Up to June 10th, our secretary informed me, he had corresponded with thirty-two members of the association, asking them to furnish

something, without receiving one favorable reply. If you are one of the members, are you doing your share? Are you helping to boost the society? I do not wish to tread on the toes of anyone, but come right down to facts, and let each one of us ask ourselves, "Am I doing my share?" "Am I doing the best I can for the welfare of our society?"

There are always members who are ready and willing and doing, who should be appreciated. They should not be criticised and referred to as "always trying to get on the stage." Some are always ready to take part on the program whenever asked to do so, simply because they see somebody must do it, and they work for the good of the profession and the association.

There is not one of them but would much prefer to take a back seat, and listen to the other fellow, if the other fellow would only get out and do his share of the work. The man who gives a paper, or a case report, is by far the man who gets the largest benefit, not only from the discussion created but in the way of public speaking, composition, and more important to himself, benefit in more accurate future observation and better reading.

We have good men in our association who think they cannot prepare papers. They can prepare papers, and all they need is to get out and try. A scientific paper is not expected from a general practitioner, nor is he expected to advance any scientific theory based on his physiological or bacteriological laboratory experiences; but he can at least report some of his cases, or prepare a practical paper on any of the diseases or conditions he meets in his daily practice. Papers and reports on actual work are always acceptable and useful, and very often start a very helpful discussion. Any man who prepares a paper, no matter on what subject, is sure to do some reading that will be helpful to him. Do YOUR PART.

Again I say, this is not the president's nor the secretary's association—it is our association, and each one of us say "I will do my part."

Begin now and have your paper ready for the next meeting; do not put it off until the busy season and then say, "I am too busy." The profession must be organized; we must have a State association. To have a State association we must have programs that will justify men in coming fifty to two hundred miles or more to attend. It is selfish to sit back in the corner and say, "Let the other fellow do it." You are simply shirking a reasonable duty.

YOU, and YOU, and YOU, ought to get into the game and do your reasonable share with the others. Our association and the profession in general needs much, and it is everybody's duty to contribute something towards those general needs. Work for the membership in the association, work for the progress of the association, work for a better professional pride, work for the attendance at our meetings. How many men coming to this meeting telephoned or wrote to a neighboring practitioner and urged him to attend?

Now, boys, get busy; do your share. If your talent does not

shine in one direction there are plenty of other things you can do that may be equally interesting and useful. Service is the keynote of everything worth while. Again I say, boys, get busy, help our association. **Be a booster.** Then our secretary will not be compelled to write to any member and say, "I am in a predicament, and it is aboslutely necessary to call on some of the old boys who can be relied upon for a paper," and if necessary assign the subject as he did mine, "Our Society's Welfare."

## DIRTY LANDS. CASTRATION DEAD COLT.

June 1st, 1909, I was called to see a colt that had been castrated about a month before by the handy man of the neighborhood. The colt's sheath was swelled some and had been blistered by the castrator. I found the patient with a temperature of 104.4, and presenting a dejected appearance.

An abscess in the inguinal region was evacuated of a gallon of pus, the cavity washed out with, and an antiseptic solution left with the owner to be injected, and instructions to keep the wound open. I was unable to find the end of the cord; it had been severed so high.

Two weeks later I again opened this abcess and let out a lot of pus, and left permanganate of potash to be used in washing the wound. The last of June I again opened this abscess and unsuccessfully searched for the end of the cord. From this time the animal gained in flesh and did well till about December 1st, when the owner noticed it was doing badly. January 6th the colt was stiff and had no appetite. I prescribed a light purge and Fowler's solution to be given thrice daily. The next day I called to see colt and per rectum was able to locate a large abscess on the left side. I gave an unfavorable prognosis and on the 13th held an autopsy. The abdominal abscess weighed 27¼ pounds and involved the spleen and left kidney. The small intestines were adhered to it. There is no doubt but this colt's death was caused by infection from faulty castration. J. E. May, D. V. S., Yukon, Okla.

## FLOATING KIDNEY IN A HORSE.

An unusual case of floating kidney was recently noted by Dr. H. Thomson of Newman Grove, Neb.

This 3-year-old colt had foraged all winter on stalks and straw, with some grain, and had developed a well marked case of impaction of the intestines and great colon. This colic was unsuccessfully treated, the colt dying after eighteen hours.

Autopsy disclosed an impaction, but in addition, the right kidney was found to be detached and floating; freely suspended by about a foot of the vessels and nerves and pressing upon the colon in such a way as to prevent the passage of ingesta. The kidney was about the size of a toy balloon and weighed upward of six pounds, containing about a pint of fluid.

## AZOTURIA WITH UNUSUAL COMPLICATION.

Hal. C. Simpson, D. V. S., Denison, Ia.

I called to see an imported Percheron stallion, and found a typical case of azoturia; animal could rise but did not stay up long. Drew urine, which was dark, thick and glassy; applied liniment over affected muscles; gave cathartic and Fl. Ext. Digitalis 2 oz., Potassium Acetate 1 oz., Sodium Phosphate 6 oz., water ad. 16 oz. To be given 1 oz. every 3 hours. Also powders to be put on tongue every 3 hours; each powder consisting Salol 1 dram, Hydrar. chloridum mite 15 grs., sodium Bicarbonate 2 drams. Returned next day; found animal improving, temperature lower, pulse and respiration slower and animal able to stand longer and eating a little. Continued same treatment excepting medicine was given every 4 hours.

April 23, called again; animal greatly improved. All muscles were relaxed excepting was still in pain in the left hind leg. By palpation of the region between external angle of ilium and the stifle; I thought it was more flabby than on the other side and made prognosis of possible atrophy; continued same treatment, only ordered medicine given every 6 hours. Noticed prominence on hoof of this leg and inquired about it. Was informed that about two months previous he had been lame and in a few days the hoof had separated at top of wall and supurated for a few days, the foot at that time being poulticed, pared out and flushed, recovery followed in a few days. On examining hoof, increased arterial pulsation and fever were detected; removed shoe and made thorough examination; found evidences of foreign body penetrating near white line. Probe was passed nearly to top of hoof, an opening was made there and tract thoroughly flushed out, tincture iodine injected and foot poulticed for a few days. The tract was flushed daily for some time.

After opening the foot, animal improved at once, and in a few days was going sound as far as a rapidly atrophying muscle would permit. This horse weighed 1980 a short time before, but at present the thickness of tissues between stifle and external angle of ilium does not exceed 1½ inches. For fear of possible permanent injury, animal was taken from stud for present season.

Possibly I should have discovered this foreign body earlier, but having a typical case of azoturia, I never suspected anything of the kind and particularly to the hoof on the same leg in which the disease was intensified. Is it possible the condition in the hoof had anything to do with azoturia localizing itself in the region named? This case is peculiar on account of its complication and it emphasizes the fact that we, as veterinarians, should take nothing for granted.

April 30, a young horse was led into hospital to be treated for Atrophy of Postea Spinatus muscles of left side. I wasn't there at time and owner reported to assistant that he was very mean and hard to lead and that he had lain down twice on the road to the hospital.

I returned shortly and above conversation was repeated to me. About this time the gelding urinated. I went into stall and discovered that urine had the characteristic appearance of azoturia. I then noticed the

muscles were enlarged and very hard. Gave treatment and advised owner to leave him a few days, which he did. The animal improved to all appearances, except the muscles did not soften up any. As he seemed all right otherwise, I concluded to treat the atrophy by the injection of tincture Iodine 1 dram into the atrophied muscles and, just to see what the result would be, injected some into the hardened muscles. It failed to have an action towards softening them, that I could see.

## PROLAPSE OF THE ANUS AND RECTUM IN THE HORSE.

By C. H. Babcock, M. D. V., New Rockford, N. D.

Read at annual meeting North Dakota Veterinary Medical Association.

It has been said that "honest confession is good for the soul."

I shall, therefore, preface this paper by confessing that, not only is my knowledge of the subject I have chosen, somewhat meagre, but my success in treating the cases that have come under my care has not been in any way brilliant. My only excuse for inflicting this paper upon you is the purely selfish hope that I may learn more about the trouble, from my more experienced colleagues.

Permanent protrusion of the mucus membrane of the rectum is described as prolapsus ani. As the membrane normally appears after each act of defecation, prolapsus ani, in reality, only amounts to an abnormal continuation of a normal physiological process.

Dr. Moller says: "When not merely the mucus membrane, but the entire intestinal wall passes the anus, the condition is termed prolapsus recti. The posterior end of the bowel can only pass the anus after rupture of the periproctal connective tissue, but those portions of the bowel normally clothed with peritoneum sometimes pass through the pelvic portion and anus, after becoming invaginated in the last portion of the rectum. Constituting a third condition, prolapse with invagination. We therefore distinguish:

1. Prolapsus ani.
2. Prolapsus recti.
3. Prolapsus Recti cum Invaginate.

**Eitology.** The text books give severe diarrhea with its accocmpanying tenesmus, as the most common cause of this condition, and it may be true in the smaller animals like the dog or pig, but I have never yet seen a case following diarrhea in the horse.

I have, however, found anal prolapses quite a common occurrence accompanying dystokia in the mare, happily, however, I have so far found the condition to be easily overcome in these cases.

The disease (if I may so call it) is naturally favored by a weakened or paralytic condition of the sphincter ani and the attending relaxation of that muscle. I am strongly of the opinion that certain diets are a predisposing factor in the causation of this trouble, viz: I have found the majority of my cases in animals fed on straw or millet hay, and in one instance in an animal that was pastured in a very poor weedy

pasture, having an old straw-pile in it, from which this animal was continuously picking.

Just why this diet should cause the condition, I am unable to state, unless the fact that it tends to produce intestinal disturbances, and a consequent increased abdominal pressure.

I have also noted anal prolapse as an accompaniment of castration, especially where the animal struggled violently, but never as yet serious enough to cause any uneasiness.

Enemas containing irritating drugs or used too warm are prone to cause severe tenesmus and prolapse.

**Symptoms.** Are so patent that I shall say little about them. Early in prolapse of the anus, the membranes protrude as a tumor-like mass and have a red and angry look, when the rectum is involved the swelling is larger and harder, but does not attain the size that it does when invaginated, where portions of the bowel a yard or more in length may protrude through the anus. I saw one case where the invaginated portion of the bowel was so long that the animal stepped on it. The milder cases of this trouble are generally reduced by the layman without skilled assistance, and only when it continually recurs, the mucosea becomes blackened by necrosis, or the persistence of the trouble, is sufficient to alarm the owner, are we called in, and then, from my experienc, it is too late to be of service in many cases. As the condition persists changes in the appearance of the mucosae, from continued exposure to air, occur, it becomes blackened, dry, necrotic and may occasionally slough off thus bringing about a spontaneous cure, but I believe this outcome of the trouble to be a rare occurrence.

**Treatment.** In the milder and more recent cases the treatment is simple. The mucus membranes should be cleansed with a warm antiseptic solution, then carefully replaced with the hand. To prevent straining and relapse a purse-string-in-and-out suture of clean tape has been recommended, so arranged that it may be loosened to allow defecation. I believe, however, that this method should be avoided as much as possible because of its liability to increase tenesmus.

I have found a hypodermic injection of morphine and atropine, or better still an occasional H-M-C tablet Formula "A" of great value in preventing the straining, or one might try clysters of mucilagenous or oily liquids, with cocaine or tincture of opium.

Should the prolapsed mucus membrance be badly swollen scarification and bathing with an astringent lotion, such as a 2-5% solution of alum or tannin aids in reposition of the parts.

For the more sevère cases where there is extensive invagination and also necrosis of the exposed portion of the bowel, I am of the opinion that amputation offers us the best chance of success. Where, for any reason, this is undesirable various agents are recommended, such as counter-irritants of cupric sulphate and charcoal equal parts powdered and applied daily; this forms a heavy scab, which it is claimed, sloughs off in eight to fourteen days.

Simple ligation is recommended by Viborg and Stockflith in the case

of fowls, dogs and pigs. They use a wooden cylinder wih a shallow groove on its outer surface to hold the ligature in position. The prolapse is divided up to the anus, the cylinder is then thrust in and a stout ligature passed around it and the prolapsed bowel; this slowly cuts through until finally the portion of the bowel posterior to the ring is cut off. During the intervening period bulky food should be withheld, and defecation assisted by enemas.

Multiple ligation is, however, I believe, a better method in the horse, although if the layers of the bowel are not completely united to one another or at least firmly adherent there is considerable risk of opening the peritoneal cavity.

For my technique in this operation I will refer you to case No. 2, following. In conclusion, I will briefly give the history of three or four cases that have come under my care.

Case 1. A sixteen hundred pound sorrel mare, very fat and thick, had for some time previous received a liberal daily ration of millet hay, cut when quite ripe. This case showed a prolapse of the anus about as large as a man's two fists, the membranes were red and angry looking, but not necrotic.

After bathing with a hot creolin solution, the prolapse was quite easily reduced and the inner aspect of the anus and rectum were smeared twice daily with an ointment of powdered nutgalls, extract of belladonna and benzoated lard. Internally she received the following mixture once daily for 3 or 4 days, viz: Linseed oil 1 pint, turpentine 1 ounce, and tincture of capsicum 2 drams. Recovery in this case, complete and uneventful.

Case 2. A fourteen hundred pound brown mare, 7 years old and in fine condition, due to foal, in about six weeks, had been fed liberally with oats all winter, but no hay, having free access to a pile of oat straw.

She was found one cold, stormy evening down in the straw pile and unable to rise, was hauled to the barn on a manure boat. Got on her feet the next morning with slight assistance and when I saw her three days later she was, except for the prolapse, apparently as well as any horse. No rise in temperature or increase in the pulse rate. The prolapsed bowel was as large as a man's head, nearly black and containing fissures large enough to contain the hand laid flatwise, and gave off a most offensive odor. In this case there was no difficulty about defecation, the faeces easily passing out through the center of the mass.

I gave the mare a hypodermic of 4½ grs. morphine and ½ gr. atropine. Carefully cleansed the protruding mass with a 2% solution of veterinary eucamphol, then drew the entire mass backward as far as possible, next passing a sterile wire skewer through the center of the bowel as close to the body as I could, the ends resting on the ischial prominences to prevent the bowel slipping back into the abdominal cavity after removal of the tumor until ready for it to do so.

A large needle with a strong thread doubled was then passed through the upper one-fourth of the bowel in front of the mass and about one-half inch posterior to the skewer. This operation was repeated with

the two side quarters and the lower. Each suture was now tightly tied, when I proceeded to cut away the mass in section corresponding to the four ligatures. As these sections were cut away, the ends were carefully approximated after arresting the hemorrhage, and ligated with gut sutures placed in the form of buttonhole stitches about one-half inch apart.

After completing the operation, the skewer was withdrawn and the rectum dropped back into position, the twitch was removed from her nose and the mare began to eat as if nothing had occurred.

Post operative treatment consisted of enemas of a warm 2% solution of creolin twice daily. A pint of linseed oil daily, with a light diet, plenty of cold water and very little hay. I was unable to see the case again, but learned from the owner that she apparently made an uneventful recovery and gave birth to a fine foal in due time, worked through seeding, but three or four months after the operation was found dead in the stable one morning. Whether the operation was in any way the cause of death, I am, of course, unable to say.

Case 3. This is one of the most distressing cases in my experience. A yearling mare, in well nourished condition, with a history of anal prolapse extending over a period of five or six weeks. Owner had tried every means he could think of, and everything suggested by his neighbors, but the case gradually grew worse.

When I arrived on the scene, I found the bowels invaginated through the prolapse and hanging so low that she had stepped no what seemed to be the floating colon, tearing several rents in it. As the colt was nearly dead, I suggested that it would be a merficul act to assist the process, a suggestion to which the owner agreed.

Since writing this paper I ran across a short article by Dr. R. W. Gannett on this subject, which may prove of interest. He says: "The prolapsed portion appeared like a large, round tumor, red, painful to touch, bleeding, and from the center of which, by violent straining, the animal was able to pass a small amount of faeces in small, dry, hard balls, covered with blood. The rectum was carefully emptied and an ounce of aloes administered.

"The next day the tumor-like mass was ligated in three portions well forward upon the healthy mucosae. It was necessary to empty the rectum daily until the ligated portion sloughed and dropped off in four days. Healing of the rectum was rapid and without treatment."

I have written what Dr. Gannett reports, for the reason that his technique is so much simpler than the procedure I followed in case No. 2.

## EVERSION OF THE BLADDER IN A MARE.

By C. O. Smith M. D. V., Corunna, Ind.

I was called, April 8, 1910, to treat a 8-year-old, 1600-pound mare with an eversion of the bladder of 36 hours' standing. The owner had supposed the object hanging out to be the portion of the placenta, and for this reason had neglected it.

I arrived about 8 o'clock a. m. and found the everted bladder much

swollen, inflamed, covered with dirt and very cold. On cleansing with antiseptic solution, numerous small superficial lacerations of the mucus membrane were found, due to coming in contact with the walls of the stall. The mare strained occasionally, but did not appear to be in much distress. The appetite was fair. After thoroughly cleansing the organ I pushed it back into the vagina and by irrigating with rather warm water restored its natural heat. After 15 or 20 minutes of this treatment it seemed to relax somewhat, and by gentle pressure and massage for an hour or a little longer, the swelling nearly all disappeared and the organ became quite soft and pliable, although the walls were somewhat thickened, very dark in color. I attempted replacement by crowding the organ through the urethra with my hands, but soon discovered it was impossible, as the bladder was many times larger than the unrethral opening and manifested no inclination to return to its normal position, besides the manipulation induced frequent straining, and I administered chloral 1 ounce, alcohol 1 ounce, water 6 ounces per orem. It occurred to me that it might be possible to dilate the neck of the bladder and urethra by manipulation and application of hot water, similar to the way I often dilate a rigid os in cows, at least it was worth trying, and I soon found two fingers could be introduced through the urethral opening with the fundus of the organ doubled over my fingers; by continuing a rotary motion with my hand and fingers, I found it to be slowly dilating, so that in about five or ten minutes a third finger would pass through and a little later the fourth could be introduced. A broom handle was then secured and, placing the rounded end near the center of the fundus of the protruding organ, it was, by gentle pressure, telescoped back through itself and by the aid of my free hand guided, broom handle and all, down through the dilated neck and urethra. By this means the greater part of the funds was forced through the urethra, but it refused to pass farther without using dangerous force. This troubled me for some time, when I found that, by placing my hand anterior to the urethral opening and pressing downward on the floor of the vagina and then rubbing back toward and over the meatus, it seemed to slip a little farther into position; as this appeared encouraging, I repeated the manipulation several times, when finally, all at once, it turned back into its normal position. After removing my improvised instrument, I prevented the bladder from again everting with my hand until straining eased up. I irrigated the bladder with a rather warm permanganate solution, followed by injecting fluid extract belladonna ½ ounce, warm water 4 ounces, the straining gradually became less and I removed my hand, advised that the patient be kept absolutely quiet unless straining should increase, in which case she should have walking exercise, and I would return later.

April 8, 3 p. m., animal not feeling so well, pulse 60, temperature 102, still eating some but not with relish. Mucus membrane slightly injected, straining ceased and eyes bright. I again flushed the bladder with permanganate solution and injected belladonna as before, and prescribed:

Fluid extract belladonna..... 2 ounces
Fluid extract aconite..... 2 drams
Tr. ferri chloride..... 1 ounce
Strychnine sulph..... 4 grs.
Liq. Pot. Arsen..... 1 ounce
Simple syrup q. s. ad.....10 ounces

M. Sig: One tablespoonful every four hours.

Number 2:

Pot. Nit..... 2 drams
Calcium sulphide.....30 grains
Pulv. Sodium Salicylate..... 1 dram
Pulv. quassia..... 1 dram

M. et. f. chart No. 1. Sig: Give one powder three times daily.

April 9, 8 a. m., temperature 103.2, pulse 70, full and hard, appetite gone, mucus membrane congested, shows abdominal pain and lies down a good deal, respiration slightly accelerated, eyes somewhat dull, head hanging low when on her feet, not much interest in food, milk secretion considerably lessened. Strong indications peritonitis is going to get in its work. Instructions left to give prescription No. 1 every three, instead of every four hours.

April 9, 8 p. m., temperature 104, pulse 80, not so hard and bounding as in the morning, mucus membranes congested, eyes dull, not anxious, peristallic action slow and only at intervals, lies down continually; pain markedly noticed on palpitation over abdomen, colicy at times, appearance anything but favorable. Gave large single dose of acetanilid, added a little more aconite to prescription No. 1, lengthened the time back to every four hours, but doubled the dose.

April 10, 7 a. m., appears much better; she is on her feet; pulse 60, temperature 103 2-5, respiration very near normal, ate a quart of oats at 6 o'clock and later a bran mash. Owner stated that he first thought she appeared better at about 4 o'clock a. m.; very tender over abdomen, especially the left side, would not allow colt to nurse, as it evidently was painful. Instructed owner to tempt her on green grass or other soft feed, no dry feed of any kind, and remove the colt, as it irritated her by trying to nurse, but to milk the mare out, the quantity of milk was small. In the evening the medication was reduced to original dosage. Was unable to see her, but owner stated that she appeared to be gaining, when called over telephone.

April 11, 8:30 a. m., mare undoubtedly convalescent, pulse 52, temperature 102, appetite returned, tenderness over abdomen decreasing, mucus membranes about normal, shows some irritation of and paralysis of the vesical sphincter. The urine dribbles away, as fast as formed.

April 12, pulse 40, temperature 101, eyes bright, abdominal tenderness markedly less, distress in urination not prominent and she is able to hold her urine better.

No further calls were made and the mare is now at work every day.

# Missouri Valley Veterinary Bulletin

D. M. CAMPBELL, D. V. S., Editor.

A monthly journal of comparative medicine, devoted to the best interests of the veterinary profession.

Per annum in advance.....$1.00
Single copy. . . . . .10

Advertising rates on application.

All bills for advertising will be collected by sight draft after due notice from this office.

Original articles, case reports, and general veterinary news solicited for exclusive publication.

Articles for publication must be short and practical.

The Editor is responsible for his own opinions only. He always tells what he believes to be the truth and will be grateful to readers if they will take the trouble to point out his errors to him.

Address, D. M. CAMPBELL,
1926 Wilson Ave., Chicago, Illinois.

Elsewhere in this issue are given the tentative plans for a special train or special cars to be run from Chicago via Omaha or Kansas City to San Francisco for the accommodation of those from the Eastern, Middle and Middle Western states who attend the A. V. M. A. meeting next September. No one who has not managed an excursion of this kind realizes the enormous amount of work it entails or appreciates the magnitude of the task Secretary Lyman has, to arrange this.

There is not the slightest doubt that a sufficient number of veterinarians will leave Chicago, or pass through it en route, within twenty-four hours of the time set for the excursion to start, to entitle them to a special train with all the enjoyment and good fellowship possible on such a delightful trip, but whether they will have notified Dr. Lyman early enough to allow for such an arrangement is quite a different matter.

Let us at once inform Dr. Lyman we are going and which route (1, 2 or 3, as described elsewhere) we prefer. You should go because it will be worth more than your while to go. The acquaintances made and plans formulated on this excursion, if we go together, will add much to the pleasure of our stay in the city at the Golden Gate. Going with the "crowd" from Chicago, or from Omaha or from Kansas City, in no way affects your return; you have until October 31 to get home and may select the route that suits your pleasure.

Let us decide at once and so inform Dr. Lyman. Do it now.

---

With every advance of veterinary science new and improved disinfectants come into use. The introduction of chemical bactericides almost keeps pace with the introduction of biologic products. The surgeon and

sanitarian depending first upon the somewhat uncertain carbolic acid welcomed the change to the reliable, though dangerous, bichloride of mercury. From the poisonous and corrosive action of bichloride we counted it a distinct step in advance to the stinking coal tar products. The coal tar products were reliable disinfectants; in small quantities non-toxic, and rather inexpensive. But our clients, particularly those who furnish the canine and feline patients, strongly objected to the offensive odor and, in fact, many of us detested it, so the coal tars were gladly discarded for the elegant and refined products from eucalyptus oil and camphor—"Euchamphol" and "Eucamphine."

Another step and we have returned to the tablet form of Bichloride and have in "Chinosol" a product combining advantages of being effective, almost odorless, non-tonic, will "kill" disagreeable odors and will not stain rugs or dresses. It is put up in tablets which, when dissolved in water make a clear solution in which instruments are clearly visible. Chinosol is better known to European than to American veterinarians. Prof. Hobday, in his new book on surgical diseases of the dog and cat, commends it very highly. An interesting pamphlet on the uses of Chinosol has recently been extensively mailed to veterinarians.

## AUTOMOBILES.

Have automobiles diminished the amount of veterinary practice? Have they hurt the profession? What effect on practice will the heavy buying of autos by farmers have? Will motor trucks, now being so rapidly introduced in the cities, affect the demand for and price of draft horses as the use of touring cars and runabouts has lessened the demand for and lowered the price of drivers? What of the future of veterinary practice? These are important questions. Everyone in the profession is interested in at least some of them.

Is there a redeeming side to this automobile proposition? It an auto the proper vehicle for a veterinarian to use in his practice? What type is least objectionable? Do you use one? Would you recommend a veterinarian to get one? What should a veterinarian's practice amount to annually to make an auto a profitable investment?

May we not have a hundred replies to the above? Doctor, will you reply to such of the above questions as you have definite opinions upon? If you will, we will have a most interesting and valuable discussion. Veterinarians are asking these questions of one another. We hear them at all their gatherings. They want to know about these propositions. Let us have a lively discussion. Pitch in.

Whether you will furnish a part in this discussion or not, we want every reader who is using a motor vehicle in his practice to write us, stating the fact. It will take only a postal card to do this. We want this information for statistical and other reasons, and sincerely urge you to send it in. We would like also if you would tell us the make of auto you have, if it is satisfactory, how many horses it replaces, if it is economical to rely upon an auto for making calls, and if it is a business getter. But, at any rate, let us know if you have one.

## EXCURSION TO THE A. V. M. A. MEETING.
### To Readers of The Missouri Valley Veterinary Bulletin.

A large number of veterinarians have suggested the feasibility of an excursion en route to the San Francisco meeting of the American Veterinary Medical Association. This idea of joining in an excursion for the trip west has been occupying our attention for a considerable time, and we are prepared to offer a proposition for such a plan, suggesting either Chicago or Omaha as the assembling point.

It is believed the thought can be successfully worked out if The Bulletin readers will give the project consideration and immediately determine to attend the great convention of veterinarians that will gather from Canada and the United States. If parties (members of the A. V. M. A., their friends and other veterinary surgeons) contemplating the trip west will correspond promptly with the Secretary of the A. V. M. A., stating their plans, asking whatever information may be desired and, also, agreeing to abide by a final routing determined upon by a majority decision, the details will be worked out and plans advertised sufficiently early to ensure a clear understanding.

Remember, we do not ask that you purchase your ticket at this time, but present for your consideration two or three propositions in the way of making the trip, suggesting that you consider them carefully and write us which way you would prefer to be routed; this request is based upon the realization that a traveler, dissappointed in his selection of the going trip, has the privilege of picking to his personal desires the return route and, further, that it is only by some such agreement that we can hope to be successful in organization of the excursion.

For consideration, the following westward trips are presented: Using Chicago as the starting point (a day later from Omaha), leaving Thursday, about 6 p. m., September 1, in special cars (a special train if 100 or more elect to go), going over any direct line to Omaha, thence via Union and Southern Pacific lines through Cheyenne, Ogden, Sacramento and arriving at San Francisco, Sunday, September 4, about 7 p. m. Another trip: Leaving Chicago, Thursday, September 1, 9 p. m., over the Rock Island and Southern Pacific lines via Kansas City, El Paso, Los Angeles and arriving at San Francisco, Monday, September 5, 11:40 a. m. The cost of either above routes will be the same, viz: Round trip fare, returning as individuals or in a party by way of any direct route prior to October 31, $62.50; Pullman reservations $14.00 in either direction.

Thirdly, we offer a trip leaving Chicago, August 31, Wednesday, going via Minneapolis, Billings, Spokane, Seattle and Portland over the Northern route, arriving at San Francisco Monday, September 5. This route, returning direct or via any other, at round trip fare of $77.50. Pullman, $19.00 going; $14.00 returning.

After carefully going over not only the above schedules but all available transcontinental routes, I am persuaded to suggest the shortest and least expensive going trip, that by way of direction first quoted and at the same time pointing out what has already been intimated, that parties can return by whatever route is desired.

This contemplated journey will enable those so fortunate as to adequately arrange their plans, to not alone attend the great convention but combine a trip through a portion of this country marvelously rich in natural resources; it will be highly educational and a chance of a lifetime, at greatly reduced prices, to visit the renown Golden Gate city on the shores of the Pacific.

Readers! Who will undertake to join the writer on this trip? We want 100 travelers, and then we will have our own going train, going when and how we will. Let those delegated by other Associations consider that they are included in this invitation to partake of a joyous time.

(Signed) R. P. LYMAN,

Sec'y. A. V. M. A., 1336 East 15th St., Kansas City, Mo.

## ANNOUNCEMENT.

The Zeta Chapter of The Alpha Psi Fraternity was installed in the Veterinary Department of the Colorado State Agricultural College, Thursday evening, March 24, 1910.

The Alpha Psi is a national veterinary fraternity, and was established at Ohio State University in 1906. It now has flourishing and prosperous chapters in most of the leading veterinary institutions in America.

Dr. N. J. Miller, representing the National Council, assisted by several honorary members, conducted the installation proceedings.

Immediately following the initiation all enjoyed a most elaborate spread at the Linden hotel, after which many responsive toasts were given.

## THE 1909 A. V. M. A. MEETING.

The published report of the meeting of the American Veterinary Medical Association in September, 1909, was distributed during the later part of April.

The report makes a volume of 413 pages, and is handsomely bound in cloth. It contains the proceedings in full of the various sessions of the meeting and a copy of all papers (except one) read at the sessions, with the complete discussion of each. In addition to this, the volume contains the report of the resident secretary from each state on matters of interest concerning the profession in his state. The secertary's report and the report of the committee on diseases are also valuable features of the book.

The value of the report, particularly of that part of it furnished by the resident secretaries, is considerably lessened by the long delay in its publication. The interest in the report has been much lessened by the publication of a number of the papers prior to their appearance in the official report.

Taken all in all, this report constitutes a work of exceeding value on veterinary medicine, and no veterinarian can afford to be without it.

## FOURTEENTH ANNUAL MEETING OF THE INDIANA VETERINARY COLLEGE ASSOCIATION.

Meeting called to order in the college building, Indianapolis, April 1, 1910.

The roll call revealed only twenty of the older classes present.

The minutes of the last meeting were adopted as read, as was also the secretary's report for the year.

The report of Dr. Mueller, temporary treasurer, showed $32.76 in the treasury. Bills aggregating $62.90 were allowed by the association.

QUALIFICATION OF NEW MEMBERS: On motion made and seconded this year's class as a whole were admitted upon qualifying. Of the 50 eligible, 45 whose names follow, were admitted: Virgil Avery, McKeen Boyce, Benjamin H. Branson, Theodore L. Breek, Frank H. Brown, George R. Brunson, Charles G. Burton, Fred F. Christian, R. E. Cook, William B. Cook, W. O. Conner, W. O. Crisler, Emmet T. Davis, Joseph E. Davis, Demott Lee, Charles W. Doty, Fred C. Driver, John T. Elllis, Roy W. Elrod, George W. Hamilton, Clyde C. Hunt, Thomas R. Irons, Arthur L. Johnson, Frank R. Jones, Thomas F. Kilgin, John A. Makowsky, Louis E. Mabry, Elza A. McConnell, Thomas E. Palmer, Bert Pattison, Arthur C. Redmon, Charles E. Reed, John S. Reno, John O. Riester, Rudolph Rodgers, William H. Roeschlein, Harry B. Ropp, John A. Schwartz, Volta V. Shattuck, J. Fred Swaim, Morton Tanner, Patrick J. Tobin, George W. Turley, Roy B. Whitsell, Emery J. Yocom.

Election of officers:

President—Frank Smith. Vice President—Harry Hunter.

Secretary—E. M. Bronson. Treasurer—Otto Joyce.

Censors—Ferd A. Mueller, Howard Danner and Evan H. Pritchard.

Under installation, Dr. Smith, the incoming President, urged a better organization and asked for unanimous support to that end for the ensuing year.

Committee on programme and entertainment were appointed, as follows: Dr. F. H. Reister, Louisville, Ky.; Dr. Edgar Heiny, Lebanon, Ind.; Dr. James E. Carson, Cicero, Ind.

Under Good of the Association: A motion was adopted that each class appoint a secretary to work up enthusiasm in their class, and meet here next year and have a banquet.

Under Literary Programme: Dr. Sigler gave an impromptu talk on bacterins, saying in part, that he felt they filled a long-felt want, especially in the treatment of fistulous tracts.

Discussion—Dr. Bronson: Do you believe their use to be along the lines of the Opsonic theory? Dr. Sigler: Yes, sir. Dr. Bronson: Do you include surgery along with your treatment? Dr. Sigler: Yes, and also an antiseptic wash. Dr. Smith: How often and how much do you use? Dr. Sigler: I use the Abbott Alkaloidal preparation and 2 c. c. per dose every seven days without regard to size of animal, especially if bad. Dr. Smith: I wish each one of you would record his experience here next year along this line, especially. Will you do it? I will, and be ready to tell mine, and if you will, we will all be advancing the profession. Adjourned.

E. M. BRONSON,
Secretary.

## DIRECTIONS FOR THE HOME PASTEURIZATION OF MILK.

Bureau of Animal Industry.—Circular 152.
By L. A. Rogers.

Milk delivered in the cities in the summer months frequently contains bacteria in such large numbers that it is not a safe food for children, especially for infants whose food consists entirely of milk. In many cities a special milk can be secured, but this is sometimes difficult and always involves additional expense.

Under such circumstances it is advisable to pasteurize all milk consumed by small children. The pasteurization should be done in such a way that disease-producing bacteria as well as those likely to produce intestinal disturbances are destroyed without at the same time injuring the flavor or the nutritive value of the milk. This may be accomplished in the home by the use of a simple improvised outfit.

Milk is most conveniently pasteurized in the bottle in which it is delivered. To do this use a small pail with a perforated false bottom. An inverted pie tin with a few holes punched in it will answer this purpose. This will raise the bottles from the bottom of the pail, thus allowing a free circulation of water and preventing bumping of the bottles. Punch a hole through the cap of one of the bottles and insert a thermometer. The ordinary floating type of thermometer is likely to be inaccurate, and if possible a good thermometer withthe scale etched on the glass should be used. Set the bottles of milk in the pail and fill the pail with water nearly to the level of the milk. Put the pail on the stove or over a gas flame and heat it until the thermometer in the milk shows not less than 150 degrees nor more than 155 degrees F. The bottles should then be removed from the water and allowed to stand from twenty to thirty minutes. The temperature will fall slowly, but may be held more uniformly by covering the bottles with a towel. The punctured cap should be replaced with a new one, or the bottle should be covered with an inverted cup.

After the milk has been held as directed it should be cooled as quickly and as much as possible by setting in water. To avoid danger of breaking the bottle by too sudden

change of temperature, this water should be warm at first. Replace the warm water slowly with cold water. After cooling, milk should in all cases be held at lowest available temperature.

This method may be employed to retard the souring of milk or cream for ordinary use. It should be remembered, however, that pasteurization does not destroy all bacteria in milk, and after pasteurization it should be kept cold and used as soon as possible. Cream does not rise as rapidly or separate as completely in pasteurized milk as in raw milk.

---

A ribbon with the inscription, "Don't Kiss Me," hung across the chests of children, is part of a crusade in Washington, D. C., against tuberculosis and other infectious diseases. As these ribbons are not worn by the mothers or big sisters, it would appear that, together with the recent anti-kissing agitation, they may have some effect in curbing a silly and dangerous custom, that of the indiscriminate kissing of defenseless children by admiring elders.

---

Tannin, adrenalin, digitalis and ergot are worse than useless for cerebral, pulmonary or hepatic hemorrhages.—Dixon, Lancet.

---

Fletcher declares that if we masticate long enough we can dine sumptuously on a menu card and wafer biscuit.—Hutchinson.

---

**A NEW THERMO CAUTERY.**

In the advertising section this month is presented the announcement of Frank S. Betz, of an improved thermo cautery for the use of veterinarians. This new cautery is automatic in that it furnishes its own gas pressure and heats itself. It thus obviates most of the disagreeable features of the old kind. The surgeon when firing has nothing to do but direct the hot point; no pumping to do, no assistant in the way, no rubber tubes dangling and he has one hand always free.

This instrument is offered to the profession absolutely on its merit; money back if not satisfied. Descriptive literature free.

---

**WANTED.**

An assistant who is a graduate veterinarian, with some experience; must be strictly sober and honest; not a cigarette fiend and not afraid to work, and willing to come at once. C. A. Spangler, M. D. C., Lockport, Ill.

# News Notes

Dr. S. Stewart of Kansas City recently made a flying trip to Indianapolis.

Dr. Simpson of Yates Center, Kan., made a business trip to Kansas City, recently.

Dr. F. F. Brown of Kansas City recently made a professional trip to Wellington, Kan.

Dr. R. F. Bourne, Kansas City, Mo., is making an extended visit at his home in central Kansas.

Dr. Richard P. Lyman of Kansas City expects to leave Kansas City for the east about the first of June.

Dr. W. E. King, Olathe, Kan., is contemplating an extended journey through the Ozarks during the month of June.

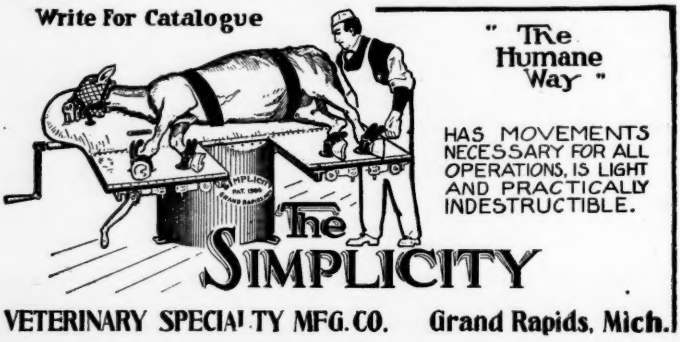
Dr. R. C. Moore of Kansas City, Mo., and Miss Maude Wise of Kansas City, Mo., were married in Wichita on April 10, 1910.

The Kansas City U. S. A. Association of Veterinarians had a very enjoyable meeting and banquet at the Hotel Kupper on April 11.

Dr. John Harvey Slater, president state association, Richmond, Mo., while in Kansas City a few days ago, announced that the Missouri State Veterinarians would meet in Columbia the last week in June.

The Bureau of Animal Industry is sending experts to the various stations through the country, who are examining inspector's assistants and meat inspectors for the purpose of determining those eligible for promotion.

At the present time, rabbies is very prevalent in and around Kansas City, some twelve or fifteen cases having been examined in the Pathological Laboratory of the Kansas City Veterinary College within the last month.



Write For Catalogue
" The Humane Way "
HAS MOVEMENTS NECESSARY FOR ALL OPERATIONS, IS LIGHT AND PRACTICALLY INDESTRUCTIBLE.
The SIMPLICITY
VETERINARY SPECIALTY MFG. CO. Grand Rapids, Mich.

Save 84

# ANTI-ITIS

## (ANTI-INFLAMMATION.)

A HYDRO-ABSORBENT, ANTISEPTIC AND ANODYNE FOR VETERINARY USE

The observing veterinarian, who has used ANTI-ITIS, says it excells all other cataplasm preparations, as it dries out only over inflamed tissues. This shows that ANTI-ITIS was accurately and scientifically compounded to produce a preparation as its name implies, Anti-Inflammation.

**Pneumonia.** ANTI-ITIS is indicated in the onset but not in the second stage. Apply warm and thick over the seat of the pain. Dressings should be changed as soon as they become dry

**Bronchitis.** ANTI-ITIS shows throughout that it is of great advantage in allaying the pain and relieving the cough. ANTI-ITIS should be applied under the same conditions as in Pneumonia

**Pleurisy.** ANTI-ITIS should be applied hot, being careful not to burn the patient. ANTI-ITIS shows to the attending veterinarian sedative, anodyne and hydro-absorbent properties.

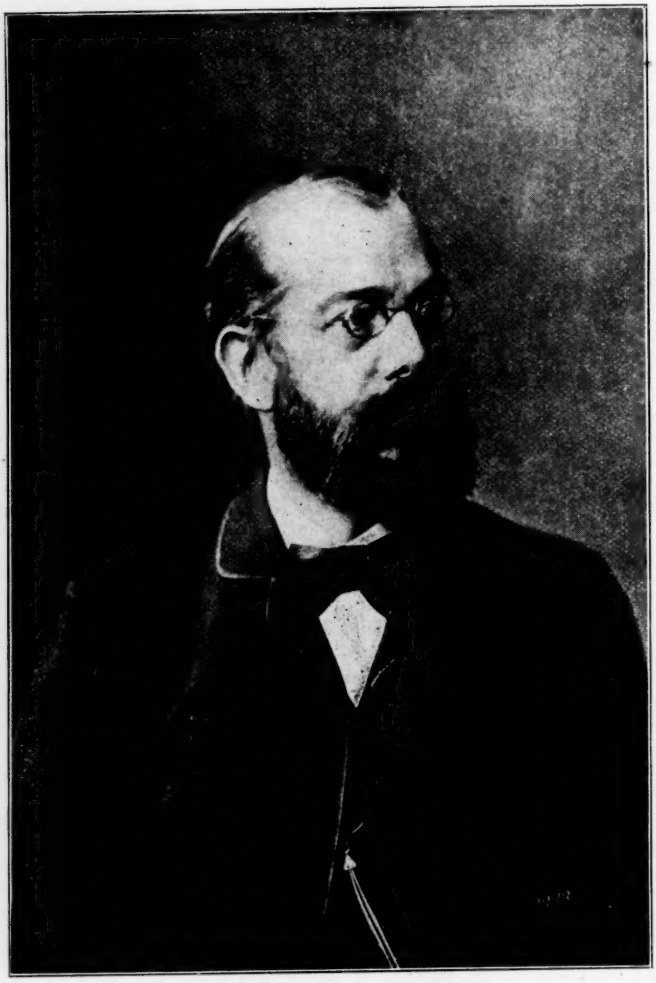
**Write for our**

**25 lb. Special Offer**

**to Veterinarians**

**ANTI-ITIS (INC.)**

**23 State Street, Lynn, Mass.**



PROF. DR. ROBERT KOCH